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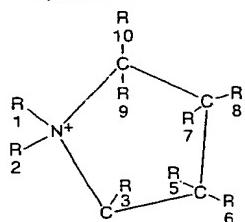
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(54) Title: ELECTROCHEMICAL ELEMENT FOR USE AT HIGH TEMPERATURES

A

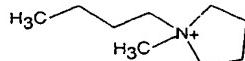
Pyrrolidinium cations



pyrrolidinium ring structure:
R₁-R₁₀ is e.g. H, F, alkylgroup, etc.

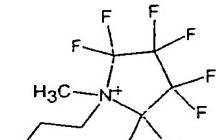
(57) Abstract: An electrochemical element for use at a high temperature has an anode, a cathode comprising an intercalation material having an upper reversible potential-limit of at most 4 V versus Li/Li⁺ as active material, and an electrolyte arranged between the cathode and anode, which electrolyte comprises an ionic liquid with an anion and a cation comprising a pyrrolidinium ring structure having four Carbon atoms and one Nitrogen atom. Experiments revealed that rechargeable batteries comprising such an intercalation material and N-R₁-N-R₂-pyrrolidinium, wherein R₁ and R₂ are alkyl groups and R₁ may be methyl and R₂ may be butyl or hexyl, are particularly suitable for use at a temperature of up to about 150 degrees Celsius and may be used in oil and/or gas production wells.

B



1-butyl-1-methylpyrrolidinium

C



1-butyl-2,2,3,3,4,4,5,5-octafluoro-1-methylpyrrolidinium

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TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
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